

Appln. No. 10/821,170
Reply to Office action of September 19, 2005
Response dated February 21, 2006

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended) A Co-Cr-Mo alloy fine wire, ~~comprising~~ consisting of: 26 to 31 weight % of Cr; more than 8 weight % 8 to 16 weight % of Mo; and the remainder of Co and inevitable impurities; the wire having a diameter of 200 micrometers or less and a degree of roundness (minor diameter/major diameter) of lateral cross section of 0.6 or more, and a uniform structure with a concentration ratio of a high Mo concentration phase with respect to a low Mo concentration phase of 1.8 or less.

Claim 2 (Original) The Co-Cr-Mo alloy fine wire of claim 1, wherein the structure is uniform with the concentration ratio of high Co concentration phase to low Co concentration phase of 1.1 or less.

Claim 3 (Original) The Co-Cr-Mo alloy fine wire of claim 1, wherein the structure is uniform with the concentration ratio of high Cr concentration phase to low Cr concentration phase of 1.1 or less.

Claim 4 (Original) The Co-Cr-Mo alloy fine wire of claim 1, wherein the roundness of lateral cross section is 0.7 or more.

Claim 5 (Original) A manufacturing method for Co-Cr-Mo alloy fine wire, the method comprising the steps of:

injecting a molten alloy comprising 26 to 31 weight % of Cr, 8 to 16 weight % of Mo, and the remainder of Co and inevitable impurities from a nozzle with an inner diameter of 200 micrometers or less to form a molten alloy jet; and

solidifying the molten alloy jet in a coolant layer formed along an inner circumference of a rotating cylindrical drum.

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Claim 6 (Original) A manufacturing method for Co-Cr-Mo alloy fine wire, the method comprising the steps of:

injecting a molten alloy comprising 26 to 31 weight % of Cr, 8 to 16 weight % of Mo, and the remainder of Co and inevitable impurities from a nozzle of 200 micrometers or less in diameter to form a molten alloy jet; and

cooling and solidifying the molten alloy jet in cooling gas.

Claim 7 (Original) A manufacturing method for Co-Cr-Mo alloy fine wire, the method comprising the steps of:

injecting a molten alloy comprising 26 to 31 weight % of Cr, 8 to 16 weight % of Mo, and the remainder of Co and inevitable impurities from a nozzle of 200 micrometers or less in diameter to form a molten alloy jet;

feeding cooling gas into a tube collecting gas disposed in a manner so as to surround the falling path of the molten alloy jet to solidify the molten alloy jet; and

discharging the fine wire from the discharge part of the tube collecting gas to outside.

Claim 8 (Original) The manufacturing method for Co-Cr-Mo alloy fine wire of claim 6, wherein the cooling gas is a gas containing oxygen.

Claim 9 (Original) The manufacturing method for Co-Cr-Mo alloy fine wire of claim 6, wherein the cooling gas is composed of a first gas component comprising inert gas introduced into the tube collecting gas at a first position closer to the nozzle in the falling direction of the molten alloy jet, and a second gas component comprising oxidizing gas introduced into the tube collecting gas at a second position at lower side of the first position.

Claim 10 (Original) The manufacturing method for Co-Cr-Mo alloy fine wire of claim 9, wherein the first gas component is argon or helium, and the second gas component is oxygen or carbon dioxide.

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Claim 11 (Original) A planar body formed by weaving, knitting or nonwoven processing of the Co-Cr-Mo alloy fine wire of claim 1.

Claim 12 (Original) A tubular body formed by weaving, knitting or nonwoven processing of the Co-Cr-Mo alloy fine wire of claim 1.

Claim 13 (Original) A stranded wire formed by processing of the Co-Cr-Mo alloy fine wire of claim 1.

Claim 14 (Original) A cable formed by processing of the Co-Cr-Mo alloy fine wire of claim 1.

Claim 15 (Currently Amended) A Co-Cr-Mo alloy fine wire, ~~comprising~~ consisting of 26 to 31 weight % of Cr, more than 8 weight % 8 to 16 weight % of Mo; and the remainder of Co and inevitable impurities; the wire having a diameter of 200 micrometers or less and a degree of roundness (minor diameter/major diameter) of lateral cross section is 0.6 or more, and wherein an internal structure is substantially composed of either gamma phase (Co base solid solution of face-centered cubic system) or epsilon phase (Co base solid solution of hexagonal close-packed system) only or both of them only.

Claim 16 (Original) The Co-Cr-Mo alloy fine wire of claim 15, wherein the roundness of lateral cross section is 0.7 or more.

Claim 17 (Original) A manufacturing method for Co-Cr-Mo alloy fine wire, the method comprising the step of:

injecting a molten alloy comprising 26 to 31 weight % of Cr, 8 to 16 weight % of Mo, and the remainder of Co and inevitable impurities into a coolant layer formed along the inner circumference of a rotating cylindrical drum to obtain a fine wire of diameter of 200 micrometers or less, and roundness (minor diameter/major diameter) of lateral cross

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section of 0.6 or more, with an internal structure substantially composed of either gamma phase (Co base solid solution of face-centered cubic system) or epsilon phase (Co base solid solution of hexagonal close-packed system) only, or both of them only.

Claim 18 (Original) A manufacturing method for Co-Cr-Mo alloy fine wire, the method comprising the steps of:

injecting a molten alloy comprising 26 to 31 weight % of Cr, 3 to 16 weight % of Mo, and the remainder of Co and inevitable impurities from a nozzle of 200 micrometers or less in diameter; and

cooling and solidifying the injection jet in cooling gas to obtain a fine wire of diameter of 200 micrometers or less, and roundness (minor diameter/major diameter) of lateral cross section of 0.7 or more, with the internal structure substantially composed of either gamma phase (Co base solid solution of face-centered cubic system) or epsilon phase (Co base solid solution of hexagonal close-packed system) only, or both of them only.

Claim 19 (Original) A manufacturing method for Co-Cr-Mo alloy fine wire, the method comprising the steps of:

injecting downward a molten alloy comprising 26 to 31 weight % of Cr, 8 to 16 weight % of Mo, and the remainder of Co and inevitable impurities in falling state by a nozzle of 200 micrometers or less in diameter to form a molten alloy jet;

disposing a tube collecting gas so as to surround the falling part of the molten alloy jet;

feeding a cooling gas for solidifying the molten alloy jet into the tube collecting gas by a cooling gas feed means; and

discharging a fine wire obtained by solidification of the molten alloy jet to outside from the tube collecting gas by a discharge means;

thereby obtaining a fine wire of diameter of 200 micrometers or less, and roundness (minor diameter/major diameter) of lateral cross section of 0.7 or more, with the internal structure substantially composed of either gamma phase (Co base solid

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solution of face-centered cubic system) or epsilon phase (Co base solid solution of hexagonal close-packed system) only, or both of them only.

Claim 20 (Original) The manufacturing method for Co-Cr-Mo alloy fine wire of claim 18, wherein the cooling gas is a gas containing oxygen.

Claim 21 (Original) The manufacturing method for Co-Cr-Mo alloy fine wire of claim 19, wherein the cooling gas is composed of a first gas component comprising inert gas introduced into the tube collecting gas at a first position closer to the nozzle in the falling direction of the molten alloy jet, a second gas component comprising oxidizing gas introduced into the tube collecting gas at a second position at lower side of the first position, and a third gas component of higher cooling capacity than the first and second gas components introduced into the tube collecting gas at a third position at lower side of the second position.

Claim 22 (Original) The manufacturing method for Co-Cr-Mo alloy fine wire of claim 21, wherein the first gas component is argon or helium, and the second gas component is oxygen or carbon dioxide.

Claim 23 (Original) A planar body formed by weaving, knitting or nonwoven processing of the Co-Cr-Mo alloy fine wire of claim 15.

Claim 24 (Original) A tubular body formed by weaving, knitting or nonwoven processing of the Co-Cr-Mo alloy fine wire of claim 15.

Claim 25 (Original) A stranded wire formed by processing of the Co-Cr-Mo alloy fine wire of claim 15.

Claim 26 (Original) A cable formed by processing of the Co-Cr-Mo alloy fine wire of claim 15.

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